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73. The composition of claim ²³⁹~~71~~, wherein at least one sulfur bonded to tin is the residue of a mercaptan.

74. The composition of claim ²³⁴~~71~~, wherein at least one sulfur bonded to tin is the residue of a mercapto acid.

75. The composition of claim ²³⁹~~71~~, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol.

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76. The composition of claim ²³⁴~~71~~, wherein at least one sulfur bonded to tin is the residue of a mercapto acid ester.

77. The composition of claim ²³⁴~~71~~, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol ester.

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78. The composition of claim ²³⁴~~71~~, wherein the mono- or diorganotin compound is selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thiobutyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid.

79. The composition of claim 71, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

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80. The composition of claim ²³⁴~~79~~, wherein R contains 6 to 38 carbon atoms.

81. The composition of claim ²³⁴~~79~~, wherein R contains 8 to 18 carbon atoms.

82. The composition of claim 81, wherein R' contains 2 to 6 carbon atoms.

83. The composition of claim ²³⁴~~71~~, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

84. The composition of claim ²³⁴~~71~~, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

85. A vinyl halide resin composition comprising:

- (a) a vinyl halide resin;
- (b) a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur; and
- (c) a mercapto alkanol ester of a monocarboxylic acid.

86. The vinyl halide resin composition of claim 85, wherein in the mono- or diorganotin compound there is bonded to tin at least one alkyl mercapto ester group.

87. The vinyl halide resin composition of claim ²³⁵~~85~~, wherein at least one sulfur bonded to tin is the residue of a mercaptan.

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88. The vinyl halide resin composition of claim ²³⁵85, wherein at least one sulfur bonded to tin is the residue of a mercapto acid.

89. The vinyl halide resin composition of claim ²³⁵85, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol.

90. The vinyl halide resin composition of claim ²³⁵85, wherein at least one sulfur bonded to tin is the residue of a mercapto acid ester.

91. The vinyl halide resin composition of claim 85, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol ester.

92. The vinyl halide resin composition of claim ²³⁵85, wherein the mono- or diorganotin compound is selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thio-butyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid.

93. The vinyl halide resin composition of claim 85, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



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wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

94. The vinyl halide resin composition of claim 93, wherein R contains 6 to 38 carbon atoms.

95. The vinyl halide resin composition of claim 93, wherein R contains 8 to 18 carbon atoms.

96. The vinyl halide resin composition of claim 95, wherein R' contains 2 to 6 carbon atoms.

97. The vinyl halide resin composition of claim 95, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

98. The vinyl halide resin composition of claim 95, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thioglyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

99. The vinyl halide resin composition of claim 95, wherein the organotin compound and the mercapto alkanol ester of a monocarboxylic acid are present in an amount effective to stabilize the vinyl halide resin against heat or light.

100. The vinyl halide resin composition of claim 95, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % wt. of the vinyl halide resin.

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101. The vinyl halide resin composition of claim ²⁸⁵~~85~~, wherein the vinyl halide resin is polyvinyl chloride.

102. A composition comprising:

a product produced by mixing:

- (i) a mono- or diorganotin compound wherein at least one tin atom bonded to tin is sulfur; and
- (ii) a mercapto alkanol ester of a monocarboxylic acid.

103. The composition of claim 102, wherein in the mono- or diorganotin compound there is bonded to tin at least one alkyl mercapto ester group.

104. The composition of claim 102, wherein at least one sulfur bonded to tin is the residue of a mercaptan.

105. The composition of claim 102, wherein at least one sulfur bonded to tin is the residue of a mercapto acid.

106. The composition of claim 102, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol.

107. The composition of claim 102, wherein at least one sulfur bonded to tin is the residue of a mercapto acid ester.

108. The composition of claim 102, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol ester.

109. The composition of claim 102, wherein the mono- or diorganotin compound is selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of

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thio-butyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid.

110. The composition of claim 102, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene,

111. The composition of claim ¹⁰²~~110~~, wherein R contains 6 to 38 carbon atoms.

112. The composition of claim 111, wherein R' contains 2 to 6 carbon atoms.

113. The composition of claim 102, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

114. The composition of claim 102, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glycerol myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

115. The composition of claim 102, further comprising a vinyl halide resin.

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116. The composition of claim 115, wherein the product produced by mixing the organotin compound and the mercapto alkanol ester of a monocarboxylic acid are present in an amount effective to stabilize the vinyl halide resin against heat or light.

117. The composition of claim 115, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % by wt. of the vinyl halide resin.

118. The composition of 115, wherein the vinyl halide resin is polyvinyl chloride.

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119. A method of stabilizing a vinyl halide resin comprising the steps of:

(a) adding to the vinyl halide resin a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur; and

(b) adding to the vinyl halide resin a mercapto alkanol ester of a monocarboxylic acid;

the mono- or diorganotin compound and the mercapto alkanol ester of a monocarboxylic acid being present in an amount effective to stabilize the vinyl halide resin.

120. The method of claim 119, wherein in the mono- or diorganotin compound there is bonded to tin at least one alkyl mercapto ester group.

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121. The method of claim 119, wherein at least one sulfur bonded to tin is the residue of a mercaptan.

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H 122. The method of claim ~~119~~, wherein at least one sulfur bonded to tin is the residue of a mercapto acid.

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H 123. The method of claim ~~119~~, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol.

124. The method of claim 119, wherein at least one sulfur bonded to tin is the residue of a mercapto acid ester.

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H 125. The method of claim ~~119~~, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol ester.

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H 126. The method of claim ~~119~~, wherein the mono- or diorganotin compound is selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thio-butyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid.

127. The method of claim 119, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

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H 128. The method of claim ~~127~~, wherein R contains 6 to 38 carbon atoms.

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129. The method of claim ²³⁶~~127~~, wherein R contains 8 to 18 carbon atoms.

130. The method of claim 129, wherein R' contains 2 to 6 carbon atoms.

131. The method of claim ²³⁶~~119~~, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

132. The method of claim ²³⁶~~119~~, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

133. The method of claim ²³⁶~~119~~, wherein the vinyl halide resin is polyvinyl chloride.

134. A method of stabilizing a vinyl halide resin comprising the step of:

adding to the vinyl halide resin in an amount effective to stabilize the vinyl halide resin a product produced by mixing:

(a) a mono- or diorganotin compound wherein at least one atom bonded to tin is sulfur; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

135. The method of claim 134, wherein in the mono- or diorganotin compound there is bonded to tin at least one alkyl mercapto ester group.

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136. The method of claim 134, wherein at least one sulfur bonded to tin is the residue of a mercaptan.

137. The method of claim 134, wherein at least one sulfur bonded to tin is the residue of a mercapto acid.

138. The method of claim 134, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol.

139. The method of claim 134, wherein at least one sulfur bonded to tin is the residue of a mercapto acid ester.

140. The method of claim 134, wherein at least one sulfur bonded to tin is the residue of a mercapto alcohol ester.

141. The method of claim 134, wherein the mono- or diorganotin compound is selected from the group consisting of di-n-octyltin bis-(isooctyl mercapto acetate); di-n-butyltin bis-(isooctyl mercapto acetate); a mixture of an anhydride of thio-butyl stannic acid with di-n-butyltin bis-(isodecyl mercapto acetate); and a condensation polymer of butyl stannic acid and butyl thiostannic acid.

142. The method of claim 134, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

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143. The method of claim ¹³⁴~~142~~, wherein R contains 6 to 38 carbon atoms.

144. The method of claim ¹³⁴~~142~~, wherein R contains 8 to 18 carbon atoms.

145. The method of claim 144, wherein R' contains 2 to 6 carbon atoms.

146. The method of claim ¹³⁴~~142~~, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

147. The method of claim 134, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-tyio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

148. The method of claim 134, wherein the vinyl halide resin is polyvinyl chloride.

149. A composition comprising:

(a) a mono- or diorganotin compound wherein at least one atom bonded to tin is a halogen; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

150. The composition of claim 149, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



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wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

151. The composition of claim 150, wherein R contains 6 to 38 carbon atoms.

152. The composition of claim 150, wherein R contains 8 to 18 carbon atoms.

153. The composition of claim 152, wherein R' contains 2 to 6 carbon atoms.

154. The composition of claim 149, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

155. The composition of claim 149, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

156. A vinyl halide resin composition comprising:

- (a) a vinyl halide resin;
- (b) a mono- or diorganotin compound wherein at least one atom bonded to tin is a halogen; and
- (c) a mercapto alkanol ester of a monocarboxylic acid.

157. The vinyl halide resin composition of claim 156, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:

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wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

158. The vinyl halide resin composition of claim 157, wherein R contains 6 to 38 carbon atoms.

159. The vinyl halide resin composition of claim 157, wherein R contains 8 to 18 carbon atoms.

160. The vinyl halide resin composition of claim 159, wherein R' contains 2 to 6 carbon atoms.

161. The vinyl halide resin composition of claim 156, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

162. The vinyl halide resin composition of claim 156, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

163. The vinyl halide resin composition of claim 156, wherein the organotin compound and the mercapto alkanol ester of a monocarboxylic acid are present in an amount effective to stabilize the vinyl halide resin against heat or light.

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164. The vinyl halide resin composition of claim 156, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % wt. of the vinyl halide resin.

165. The vinyl halide resin composition of claim 156, wherein the vinyl halide resin is polyvinyl chloride.

166. A composition comprising:

a product produced by mixing:

(i) a mono- or diorganotin compound wherein at least one tin atom bonded to tin is a halogen; and

(ii) a mercapto alkanol ester of a monocarboxylic acid.

167. The composition of claim 166, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

168. The composition of claim 167, wherein R contains 6 to 38 carbon atoms.

169. The composition of claim 168, wherein R' contains 2 to 6 carbon atoms.

170. The composition of claim 166, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

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171. The composition of claim 166, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

172. The composition of claim 166, further comprising a vinyl halide resin.

173. The composition of claim 172, wherein the product produced by mixing the organotin compound and the mercapto alkanol ester of a monocarboxylic acid are present in an amount effective to stabilize the vinyl halide resin against heat or light.

174. The composition of claim 172, wherein the mercapto alkanol ester of a monocarboxylic acid is present in the range of 0.1 % wt. to 5 % by wt. of the vinyl halide resin.

175. The composition of 172, wherein the vinyl halide resin is polyvinyl chloride.

176. A method of stabilizing a vinyl halide resin comprising the steps of:

(a) adding to the vinyl halide resin a mono- or diorganotin compound wherein at least one atom bonded to tin is a halogen; and

(b) adding to the vinyl halide resin a mercapto alkanol ester of a monocarboxylic acid;

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the mono- or diorganotin compound and the mercapto alkanol ester of a monocarboxylic acid being present in an amount effective to stabilize the vinyl halide resin.

177. The method of claim 176, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

178. The method of claim 177, wherein R contains 6 to 38 carbon atoms.

179. The method of claim 177, wherein R contains 8 to 18 carbon atoms.

180. The method of claim 179, wherein R' contains 2 to 6 carbon atoms.

181. The method of claim 176, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.

182. The method of claim 176, wherein the mercapto alkanol ester of a monocarboxylic acid is selected from the group consisting of mercapto ethyl stearate, 3-thio-glyceryl myristate, mercapto ethyl palmitate, and mercapto ethyl myristate.

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183. The method of claim 176, wherein the vinyl halide resin is polyvinyl chloride.

184. A method of stabilizing a vinyl halide resin comprising the step of:

adding to the vinyl halide resin in an amount effective to stabilize the vinyl halide resin a product produced by mixing:

(a) a mono- or diorganotin compound wherein at least one atom bonded to tin is a halogen; and

(b) a mercapto alkanol ester of a monocarboxylic acid.

185. The method of claim 184, wherein the mercapto alkanol ester of a monocarboxylic acid has the formula:



wherein R is a linear or branched alkyl or alkenyl, aryl or aralkyl containing at least two carbon atoms; and R' designates a C₂ to C₁₈ alkylene.

186. The method of claim 185, wherein R contains 6 to 38 carbon atoms.

187. The method of claim 185, wherein R contains 8 to 18 carbon atoms.

188. The method of claim 187, wherein R' contains 2 to 6 carbon atoms.

189. The method of claim 185, wherein the monocarboxylic acid is selected from the group consisting of caprylic, pelargonic, capric, undecanoic, lauric, myristic, palmitic, stearic, isostearic, and mixtures thereof.